Monitoring Changes for OTC Sources

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OTC NOx Budget Monitoring

- Currently OTC NOx Budget sources use two guidance documents and individual state rules to monitor NOx mass.
  - Guidance for Implementation of Emission Monitoring Requirements for the NOx Budget Program
  - NOx Budget Program Monitoring Certification and Reporting Instructions (EDR 2.0)

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Subpart H Monitoring

- Subpart H is similar, but not the same as OTC monitoring requirements
- Subpart H monitoring requirements are in Part 75 of the CFR.
- Reporting under Subpart H is in EDR 2.1.

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Subpart H Monitoring

- Additional tools are available to ease your transition
  - OTC Sources under the Federal NOx Budget Trading Program: Guidance on Changing Monitoring Methods and Upgrading Monitoring Plans to EDR v2.1
  - Monitor Certification Guidelines for the NO_x SIP Call and Section 126 Trading Programs
  - CAMD representative

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Certification Applications for OTC Monitoring Systems

- States may waive formal application process for existing, certified OTC monitoring systems that meet, by the compliance date:
  - The QA requirements of § 75.74(c), and
  - If applicable, the Part 75 fuel flowmeter accuracy and/or appendix E test requirements
- Still must report the results of all QA tests in the appropriate quarterly report

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Certification Applications for OTC Monitoring Systems (cont.)

- New monitoring systems must undergo all of the required certification tests by the compliance date

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Subpart H Monitoring

- NOx
  - NOx emission rate CEMS
  - NOx concentration CEMS with Stack flow monitor
  - Appendix E correlation curves (peaking units)
- Heat Input
  - Stack flow monitor & diluent CEMS
  - Appendix D, hourly fuel flow (oil & gas units)
- LME offers small sources a non-CEMS alternative

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OTC to Subpart H CEMS Monitoring Differences

- Relative Accuracy for NOx CEMS
  - OTC allows relative accuracy of 20% for non Acid Rain Program sources.
  - Subpart H requires relative accuracy of 7.5% for annual testing frequency and 10% for semi-annual testing frequency.

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OTC CEMS Monitoring

- Low emitter alternative specifications for NOx RATA's under OTC
  - An average rate of < 0.200 lb/mmBtu if the reference method average is within ± 0.04 lb/mmBtu of the CEMS average.

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Subpart H
CEMS Monitoring

- Low emitter alternative specs for NOx emission rate RATA's under Subpart H
  - average NOx emission rate < 0.200 lb/mmBtu during RATA
    - » CEMS mean value is within ± 0.015 lb/mmBtu of the reference mean value for annual frequency
    - » use ± 0.020 lb/mmBtu for semi-annual frequency
  - Max BAF of 1.111

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OTC CEMS Monitoring

- Low emitter alternative specs for NOx concentration RATA's under Subpart H
  - average NOx concentration <250 ppm during RATA
    - » the mean value of CEMS is within +/- 12 ppm of the reference method mean value for annual frequency
    - » use +/- 15 ppm for semi-annual frequency
  - BAF max of 1.111

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OTC to Subpart H CEMS Monitoring Differences

- Relative Accuracy for moisture systems.
  - OTC allows 15% RA with alternative of 1% moisture
  - Subpart H allows 7.5% RA with alternative spec of 1.0% moisture for annual frequency
  - Subpart H allows 10% RA with alternative of 1.5% moisture for semi-annual frequency.

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OTC to Subpart H CEMS Monitoring Differences

- Different monitoring options for moisture under Subpart H.
  - Under OTC defaults are allowed for oil and gas only but no values are given
  - Under Subpart H defaults are allowed for coal and wood but not for oil and gas.

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Part 75 Testing Requirements

- DAHS Verification required
  - Formula and missing data routine verifications
  - Also required when changing from EDR 2.0 to EDR 2.1
  - Refer to Policy Question 14.96

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OTC to Subpart H CEMS Monitoring Differences

- Additional certification testing requirements
  - 3-point linearity check (not a 2-point CGA)
  - Cycle time test
  - 7 day calibration error
  - Bias tests for NO_x and flow required
  - Fuel flowmeter accuracy test and Appendix E testing, if applicable

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OTC to Subpart H CEMS Monitoring Differences

- Subpart H allows a 2 load quality assurance RATA.
  - »Requires historical load analysis to determine two most frequently used loads.

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OTC to Subpart H CEMS Monitoring Differences

- Single Load Flow RATA
  - Different criteria for application to base load units
    - »Operation at a single load > 90% for OTC
    - »Operation at a single load > 85% for Subpart H

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OTC to Subpart H CEMS Monitoring Differences

- Flow to Load or Gross Heat Rate check required under Subpart H.
  - Data analysis of flow and unit load or gross heat rate as flow monitor QA.
  - Complex situations may be exempted from test.

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OTC to Subpart H CEMS Monitoring Differences

- Quarterly linearity test
  - Subpart H allows a linearity exemption for monitors with spans of less than or equal to 30 p.p.m.
  - OTC allows 72 hour unit or stack operating grace period.
  - Subpart H allows 168 hour unit or stack operating grace period.

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OTC to Subpart H CEMS Monitoring Differences

- Daily Calibration Error Test
  - Calibration gases must conform to latest EPA protocol (Appendix A § 5.1.4).
  - Subpart H allows the use of mid range calibration gases in place of the high range calibration gases (Appendix A § 6.3.1).

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OTC CEMS Monitoring

- NOx MPC, span and range under OTC for uncontrolled units
  - Determine MPC
  - Determine High Range Span
  - Determine Analyzer Range
  - Only required to use dual range if it is required for another state or federal program.

OTC CEMS Monitoring

- NOx MPC, span and range for units with controls.
  - Determine Low Range Span
  - Determine Analyzer Range (20% - 80%)
  - Required to install dual range if low range is exceeded more than 72 hours in ozone season.

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OTC CEMS Monitoring

- NOx MPC, MEC, span and range under Subpart H for any unit
  - Determine MPC
  - Determine Span from MPC
  - Determine high range
  - Determine MEC (if applicable)
  - Compare MEC to high range
  - Dual range if MEC < 20% of high range

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OTC to Subpart H CEMS Reporting Differences

- Annual Span and Range Evaluation
  - Not required under OTC
  - Required under Subpart H
- Used to determine if span and range are appropriate
- Requirement to change span and range if majority of emissions not within 20%-80% range of monitor.

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OTC to Subpart H CEMS Monitoring Differences

- The provisions for a default high range analyzer are different under Subpart H.
  - Under OTC a 72 hour limit on use of a default high range during uncontrolled operation is allowed during the ozone season. (MPC)
  - Under Subpart H unlimited use of a default high range is allowed when using 200% of MPC.

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OTC to Subpart H Monitoring Differences

- Conditionally Valid Data
  - May not allowed under OTC
  - May be used under Subpart H (§75.20(b)(3) but only for a certain number of hours
    - »for data collected prior to certification
    - »for data collected during recertification and QA testing periods

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OTC to Subpart H Monitoring Differences

- Use of Max Heat Input in lieu of monitoring for any size unit
  - Allowed under OTC
  - Not allowed under Subpart H

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OTC to Subpart H Monitoring Differences

- Ozone Season Only NOx Mass Reporting for CEMS.
  - Not allowed under OTC
  - Allowed under Subpart H, if state agrees
  - Different reporting and QA schedules for partial year reporters.

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Subpart H Missing Data

- For SIP Call or Section 126 sources that report NOx mass only during the ozone season, use the standard Part 75 missing data procedures, but include only ozone season data in the lookback periods

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OTC to Subpart H App D&E Monitoring Differences

- Fuel flowmeter calibrations
  - Under OTC, every 4 QA operating quarters and at least every 2 years.
  - Under Subpart H, every 4 QA operating quarters or at least every 20 calendar quarters, and
    - » for orifice-type fuel flowmeter, a visual inspection of orifice plate every three years.

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OTC to Subpart H App D&E Reporting Differences

- Fuel flow-to-load option
  - Not allowed under OTC
  - Under Subpart H a source may perform a data analysis to allow extensions of fuel flowmeter QA testing up to 20 calendar quarters (Appendix A §7.8)

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OTC to Subpart H App D&E Reporting Differences

- Fuel sampling options for fuel GCV and heat input for units using appendix D fuel flowmeters to determine heat input:
  - OTC requires monthly samples of fuel for GCV and density, if necessary.
  - Subpart H allows tank sampling for GCV and density under many conditions.

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OTC to Subpart H LME Reporting Differences

- Changes to default methodologies under OTC for Low Mass Emitters
  - Applicability is different
  - Monitoring is different
  - Watch for potential rule changes in this section.

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OTC to Subpart H LME Reporting Differences

- Applicability
  - Peaking unit or any unit with HI less than 250 mmBtu/hr under OTC
  - Mass emission limit under Subpart H
    - » Less than 25 tons of NOx during ozone season
    - » Less than 50 tons of NOx annually
    - » Must be met using 3 previous years historical HI data and default emission rate

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OTC to Subpart H LME Reporting Differences

- LME Monitoring
  - 1.15 multiplier applied to the results of the Appendix E testing for fuel-and-unit specific NOx emission rate under Subpart H
  - Minor differences in apportioning Heat Input under Subpart H
  - MDC software can be used to generate the entire EDR for LME units under Subpart H

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